| Substitu | ute for form 14496 | зирто | | Complete if Known | | | |
|---|--------------------|-----------------|------------|------------------------|--------------------|---|--|
| | | | | Application Number | | _ | |
| INF | ORMATI | ON DIS | CLOSURE | Filing Date | | _ | |
| STA | TEMEN | TRYAF | PPLICANT | First Named Inventor | Linda S. Mansfield | _ | |
| • | | | . 2.07 | Group Art Unit | | _ | |
| | (use as ma | any sheets as i | necessary) | Examiner Name | | _ | |
| Sheet | 1 | of | 2 | Attorney Docket Number | MSU 4,1-458 | _ | |

| | | OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS | |
|-----------------------|--------------|---|---------|
| Examiner Initials* | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), Tublisher, city and/or country where published. | r2 · |
| R | А | McKay et al., Veterinary Clinics of North America: Equine Practice for Practicing Vets. 13(1):79-96 (1997) | |
| | В | Blythelettall, J. Am. Vetv. Med. Assoc?7210: 525-527 (1997). | |
| | С | Saville et al., J. Am. Vet. Assoc. 210: 519-524 (1997). | |
| | D | Bentz et al., J. Am. Vet. Med. Assoc. 210: 517-518 (1997). | |
| | E | Granstom et al., J. Vet. Diag. Invest. 5: 88-90 (1993). | |
| - | F | Fenger et al., Vet. Parasitol. 68: 199-213 (1997). | |
| | G | Martenuik et al., Proceedings of the Conference of Research Workers in Animal Diseases, Chicago, IL (1997) | • |
| | Н | Motin et al., Infect. Immun. 64: 4313-4318 (1996). | |
| 4 | I | Motin et al., Infect. Immun. 64: 3021-3029 (1995). | |
| | J | Molecular Cloning: A Laboratory Manual, Second Ed. edited by Sambrook et al. Cold Spring Harbor Lab. Press, Cold Spring Harbor, New York (1989). | |
| P | К | Engvall et al., Immunochem. 8: 871 (1971). | |

| Signature CODNACC Considered 1/17(CO | Examiner Signature | YUETTE | CONNELL | Date Considered | 7/17/00 | |
|--------------------------------------|-----------------------|--------|---------|--------------------|---------|--|
|--------------------------------------|-----------------------|--------|---------|--------------------|---------|--|

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant,

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08B (10-96)
Please type a plus sign (+) inside this box

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| Substitu | te for form 14498/P1 | ro | | Complete if Known | | | |
|--------------|----------------------|-------|---------------------|------------------------|--------------------|--|--|
| | | | | Application Number | | | |
| INF | DRMATIO | N D | ISCLOSURE | Filing Date | | | |
| STA | TEMENT | BY | APPLICANT | First Named Inventor | Linda S. Mansfield | | |
| · · · | | | , (() L. () / (() | Group Art Unit | | | |
| | (use as many | sheet | s as necessary) | Examiner Name | | | |
| Sheet 2 of 2 | | | | Attorney Docket Number | MSU 4.1-458 | | |

| | 1 | OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the | 7 |
|-----------------------|--------------------------|--|---------|
| Examiner Initials* | Cite No. ¹ | item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T2 |
| 如 | L | Ljunggren et al., J. Immunol. Methods 104: 7-14 (1987). | |
| | М | <pre>Kemeny et al., J. Immunol. Methods 87: 45-50 (1986).</pre> | |
| | N | Antibodies, A Laboratory Manual, eds. Harlow and Lane, Cold Spring Harbor Lab. Press, Cold Spring Harbor, New York, (1988). | |
| | 0 | Sloss et al., In Veterinary Clinical Parasitology, Iowa State Univ. Press, Ames, Iowa, (1994) p. 198 | |
| | P | Marsh et al., J. Parasitology 83: 1189-1192 (1997). | - |
| 8 | Q | Speer et al., J. Protozoology 33: 486-490 (1986). | |
| | | | |
| | | | |
| | | | |
| | | · · | |
| | | | \perp |
| | | | |
| | | | |

| | | | | |
|-----------|----------|--------|-------------|---------|
| Examiner | LIETTE 1 | | Date | 71.7/2 |
| Signature | 100110 1 | DUNECC | Considered | 1111100 |

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Tile cope

PTO/SB/08A (10-96)
Approve through 10/31/99. OMB 0651-0031
Trademark Ohno: U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Ohne: U.S. DEPARTMENT OF COMMERCO
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

| Substitut | te for form 1449/ | VPTO | | Complete if Known | | | | | |
|-----------|-------------------|--------------|----------|------------------------|--------------------|--|--|--|--|
| | | | | Application Number | | | | | |
| INFO | DRMATIC | ON DISC | LOSURE | Filing Date | | | | | |
| STA | TEMENT | T BY AP | PLICANT | First Named Inventor | Linda S. Mansfield | | | | |
| | | | | Group Art Unit | | | | | |
| | (use as many | sheets as ne | cessary) | Examiner Name | | | | | |
| Sheet | 2 | of | 2 | Attorney Docket Number | MSU 4.1-458 | | | | |

| | | U.S. Patent Do | cument | U.S. PATENT DOCI | 1 | Pages, Columns, Lines |
|--------------------|--------------------------|----------------|--------|---|--|--|
| xaminer nitials | Cite No. ¹ | Kind Code | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Where Relevant Passages or Relevant Figures Appear |
| Ж П | AU | 5,580,85 | 9 | Felgner | 12/1996 | |
| | AV | 5,561,06 | 4 | Marquet et al | 10/1996 | |
| | AW | 5,977,32 | 2 | Marks et al | 11/1999 | |
| | AX | 5,693,76 | 2 | Queen et al | 12/1997 | |
| | AY | 5,693,76 | 1 | Queen et al | 12/1997 | |
| | AZ | 5,620,84 | 5 | Gould et al | 4/1997 | · |
| | BA | 5,559,04 | 1 | Kang et al | 9/1996 | |
| | BB | 5,656,44 | 8 | Kang et al | 8/1997 | |
| | BC | 5,728,58 | 7 | Kang et al | 3/1998 | |
| | BD | 5,695,92 | 8 | Stewart | 12/1997 | |
| | BE | 5,169,78 | 39 | Bernstein | 12/1992 | |
| | BF | 4,486,53 | 0 | David et al | 12/1984 | |
| UF | BG | 4,786,58 | 9 | Rounds | 11/1988 | |
| ר ע | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | 1 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| | | | | FORE | IGN PATENT DOCUMENT | IS | | |
|-----------------------|--------------|-------------------------|---------------------|-------------------------------------|---------------------------------------|------------------------------|--|--------|
| Examiner Initials* | | Foreign Patent Document | | | Name of Patentee or | Date of Publication of | Pages, Columns, Lines, Where Relevant | |
| | Cite No.1 | Office ³ | Number ⁴ | Kind Code ⁵ (# known) | Applicant of Cited Document | Cited Document MM-DD-YYYY | Passages or Relevant Figures Appear | Τ¢ |
| | | | | | | | | |
| | | | | | ., | | | |
| | | | | | | | | 1 |
| | | | | | | | • | 1 |
| | | | | | | | | 1 |
| | | | | | | | | 1 |
| | | | | | | | | T |
| | | | | | · · · · · · · · · · · · · · · · · · · | | | 丁 |
| | | | | | | | | \top |
| | | 1 1 | | | | 1 | | 1 |

| Examiner ,/ | | Date | A = A |
|-------------|---------|------------|--------|
| l | LONNELL | Considered | 711760 |

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

+

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

| | | e for form 1449A/ | | arsons are required to r | Complete if Known | | | |
|---|-------|-------------------|--------------|--------------------------|------------------------|--------------------|--|--|
| | | | | | Application Number | | | |
| _ | INFC | RMATIO | N DISC | CLOSURE | Filing Date | | | |
| | STA | TEMENT | BY AP | PLICANT | First Named Inventor | Linda S. Mansfield | | |
| | | | | | Group Art Unit | | | |
| | | (use as many s | sheets as no | cessary) | Examiner Name | | | |
| | Sheet | ĺ | of | 2 | Attorney Docket Number | MSU 4.1-458 | | |

| | | | U.S. PATENT DOCU | MENTO | | ´ P ¬ |
|----------------------|------------------------------------|----------------------|-------------------|--|--|------------------|
| ļ | | U.S. Patent Document | U.S. PATENT DOCU | 1 | Pages, Columns, Lines, | _ A. |
| Examiner Initials | No.1 Number Kind Code ² | | of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear | 1308 |
| 4 | AA | 5,935,591 | Rossignol et al | 8/1999 | | 5 |
| | AB | 4,883,095 | Granstrom et al | 3/1999 | | 67 09 |
| | | 5,830,893 | Rüssell | 11/1998 | | jc |
| | | 4,747,476 | Russell | 5/1998 | | |
| | | 5,925,622 | Rossignol et al | 7/1999 | | |
| | | 5,725,863 | Daniels et al | 3/1998 | | |
| | | 5,585,100 | Mond et al | 12/1996 | | |
| | | 5,589,384 | Liscombe | 12/1996 | | |
| | | 5,229,293 | Matsuura et al | 7/1993 | | |
| | | 5,223,424 | Cochran et al | 6/1993 | | |
| | AK | 5,338,683 | Paoletti | 8/1994 | | |
| | | 5,494,807 | Paoletti et al | 2/1996 | | } |
| | | 5,935,777 | Moyer et al | 8/1999 | | |
| | AN | 5,928,913 | Efstathiou et al | 7/1999 | | |
| | AO | 5,741,696 | Cochran et al | 4/1998 | | |
| | AP | 5,731,188 | Cochran et al | 3/1998 | | |
| | | 5,266,313 | Esposito et al | 11/1993 | | |
| | | 5,800,821 | Acheson et al | 9/1998 | | |
| | | 5,703,055 | Felgner | 12/1997 | | |
| 1 | AT | 5,589,466 | Felgner | 12/1996 | | |

| FOREIGN PATENT DOCUMENTS | | | | | | | | |
|--------------------------|--------------------------|-------------------------|---------------------|-------------------------------------|---------------------------------------|------------------------------|--|--------------|
| Examiner Initials | Cite No. ¹ | Foreign Patent Document | | | Name of Patentee or | Date of Publication of | Pages, Columns, Lines, Where Relevant | |
| | | Office ³ | Number ⁴ | Kind Code ⁵ (# known) | Applicant of Cited Document | Cited Document MM-DD-YYYY | Passages or Relevant Figures Appear | T⁵ |
| | | | _ | | , | | | \perp |
| | | | | | | | | |
| | | | | | | | | $oxed{oxed}$ |
| | | | | | | | • | |
| | | | | | | | | \bot |
| | | | | | | | | ᆚ_ |
| | | ↓ | | | · · · · · · · · · · · · · · · · · · · | | | |
| | | | | | · · · · · · · · · · · · · · · · · · · | | | — |
| | | ├ ─- | | | | | | - |

| Examiner | 1 | Date / / |
|-----------|----------------|---------------------|
| Signature | YUETTE CONNECL | Considered 7/17/0 D |
| | 700,110 00,000 | |

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.